An aim of the system described in the aforementioned US Patent is to extract carrier and data extraction.

An aim of the present invention is to provide a method of, and apparatus for, the transmission and distribution of coded orthogonal frequency division multiplexed signals in order to transmit digital video signals to a plurality of end users.

According to a first aspect of the invention there is provided a method for the transmission of a plurality of signals, the method including the steps of: a) receiving a plurality of input signals; b) attenuating the signals so as to provide suitable signals for enabling other components to operate in a preferred operating region; c) band-pass filtering the said signals; d) translating the frequency of the said signals to provide modified signals in a predetermined bandwith; e) attenuating the modified signals; f) band-pass filtering the modified signals; g) amplifying the modified signals; h) band-pass filtering the modified signals; and i) transmitting the modified signals to a plurality of receivers, so that each receiver, when suitably tuned, receives a separate transmitted signal.

Preferably input signals are COFDM signals. Most preferably the signals are in the microwave region of the electromagnetic spectrum.

Step g) of the method may include amplification of the modified signals, followed by attenuation of the modified signals, and further amplification of the modified signals.

The method may also include the steps of providing static discharge protection and antenna port mismatch protection. One way of achieving this is to provide a DC block at a suitable point in the circuit.

The invention can be used to receive and transmit additional signals used for the synchronisation of, for example, data symbol rates and centre frequencies. These additional signals may be COFDM signals.

According to a second aspect of the invention there is provided an apparatus for the transmission of a plurality of signals, the apparatus including: a) means for receiving a plurality of input signals; b) means for attenuating the said input signals so as to provide suitable signals for enabling other components to operate in a preferred operating region; c) means for band-pass filtering the said signals; d) means for translating the frequency of the

said signals to provide modified signals in a predetermined bandwidth; e) means for attenuating the modified signals: f) means for band-pass filtering the modified signals; g) means for amplifying the modified signals; and h) means for transmitting the modified signals to a plurality of receivers, so that each receiver, when suitably tuned, receives a separate transmitted signal.

The apparatus may also include dc signal blocking means for protecting the internal RF circuitry from static or other discharges.

Preferably the means for attenuating the input signals is an input switched intermediate frequency (i.e., generally higher in frequency than the data frequency, but lower in frequency than the carrier) attenuator, operating in the 0 dB to -70 dB range.

Preferably the means for translating the frequency of the signals is a double balanced transmit mixer.

Preferably antenna port mismatch protection means such as a circulator may also be included in the apparatus.

The means for amplifying the signal may be an rf high power amplifier.

Preferably the means for transmitting the COFDM signal is a dual polarisation antenna.

First and second oscillator means may also be included in the apparatus. The first and second oscillator means may be a phase-locked oscillator and a high-stability oven controlled crystal oscillator, respectively.

Preferably the band-pass filter means is a low insertion loss band-pass filter such as, for example, an inter-digital filter.

A power supply means is provided in use and this may include: a linear power supply which may be used to provide a regulated power supply; and a switched mode power supply which may also be used to provide a regulated power supply.

An embodiment of the invention will now be described, by way of example only, with reference to the accompanying Figures, in which:-

Claims

1. A method for the transmission of a plurality of signals, the method including the steps of: a) receiving a plurality of input signals; b) attenuating the said signals so as to provide suitable signals for enabling other components to operate in a preferred operating region; c) band-pass filtering the said signals; d) translating the frequency of the said signals to provide modified signals in a predetermined bandwith; e) attenuating the modified signals; f) band-pass filtering the modified signals; g) amplifying the modified signals; h) band-pass filtering the modified signals; and i) transmitting the modified signals to a plurality of receivers, so that each receiver, when suitably tuned, receives a separate transmitted signal.

2. A method according to claim 1 wherein the signals are coded orthogonal frequency division multiplexed signals.

3. A method according to claim 2 wherein the signals are in the microwave region of the electromagnetic spectrum.

4. A method according to any preceding claim wherein the step of static discharge protection is provided.

5. A method according to any preceding claim wherein the step of antenna port mismatch protection is provided.

6. Apparatus for the transmission of a plurality of signals, the apparatus including: a) means for receiving a plurality of input signals; b) means for attenuating the said input signals so as to provide suitable signals for enabling other components to operate in a preferred operating region; c) means for band-pass filtering the said signals; d) means for translating the frequency of the said signals to provide modified signals in a predetermined bandwidth; e) means for attenuating the modified signals; f) means for band-pass filtering the modified signals; g) means for amplifying the modified signals; and h) means for transmitting the modified signals to a plurality of receivers, so that each receiver, when suitably tuned, receives a separate transmitted signal.

7. Apparatus according to claim 6 further including dc signal blocking means for protecting the internal RF circuitry from static discharges.

8. Apparatus according to claim 6 wherein the means for attenuating the input signals is an input switched intermediate frequency attenuator.

9. Apparatus according to claim 8 wherein the input switched intermediate frequency attenuator operates in the 0 dB to -70 dB range.

10. Apparatus according to claim 6 wherein the means for translating the frequency of the signals is a double balanced transmit mixer.

11. Apparatus according to claim 6 further including antenna port mismatch protection means.

12. Apparatus according to claim 11 wherein the antenna port mismatch protection means is a circulator.

13. Apparatus according to claim 6 further including at least one oscillator means.

14. Apparatus according to claim 13 wherein the oscillator means is a phase-locked oscillator.

15. Apparatus according to claim 13 wherein the oscillator means is a high-stability oven controlled crystal oscillator.

16. Method substantially as herein described with reference to the Figures.

17. Apparatus substantially as herein described with reference to the Figures.